

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 May 2006 (11.05.2006)

PCT

(10) International Publication Number
WO 2006/048887 A1

(51) International Patent Classification⁷: **C07D 501/04**,
501/22

(21) International Application Number:
PCT/IN2004/000337

(22) International Filing Date:
1 November 2004 (01.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **HET-
ERO DRUGS LIMITED** [IN/IN]; Hetero House,
8-3-166/7/1, Erragadda, Hyderabad, Andhrapradesh,
Hyderabad 500 018 (IN).

(72) Inventors; and

(75) Inventors/Applicants (for US only):
PARTHASARADHI REDDY, Bandi [IN/IN];
Hetero House, 8-3-166/7/1, Erragadda, Hyderabad,
Andhrapradesh, Hyderabad 500 018 (IN). **RATHNAKAR
REDDY**, Kura [IN/IN]; Hetero Drugs Limited (R & D),
Plot No. B-80 & 81, A.P.I.E., Balanagar, Hyderabad
500 018 (IN). **RAJI REDDY**, Rapolu [IN/IN]; Hetero
Drugs Limited (R & D), Plot No. B-80 & 81, A.P.I.E.,
Balanagar, Hyderabad 500 018 (IN). **MURALIDHARA
REDDY**, Dasari [IN/IN]; Hetero Drugs Limited (R &
D), Plot No. B-80 & 81, A.P.I.E., Balanagar, Hyderabad
500 018 (IN). **MURALI**, Nagabelli [IN/IN]; Hetero
Drugs Limited, Hetero House, 8-3-166/7/1, Erragadda,
Hyderabad 500 018 (IN).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: A NOVEL PROCESS FOR PREPARATION OF CEFPROZIL INTERMEDIATE

(57) Abstract: The present invention relates to a process for preparing a key intermediate of cefprozil and use of this intermediate in the preparation of cefprozil thereby avoiding impurity-causing self-acylation. [R-(Z)]-[4-hydroxy- α -[(3-methoxy-1-methyl-3-oxo-1-propenyl)amino]] benzeneacetic acid, mono potassium salt is reacted with ethyl chloroformate to obtain mixed anhydride which is then silylated with *N,O*-bis(trimethylsilyl)acetamide. The silylated compound obtained is reacted with [7-trimethylsilylamino-3-(Z/E-propen-1-yl)-3-cephem-4-carboxylic acid]trimethylsilyl ester and deprotected with aqueous hydrochloric acid to give cefprozil.



WO 2006/048887 A1